

FIGURE 1 An UMTS Modem System Block Diagram, (Prior art)

FIG. 1 is a block diagram of a UMTS Modem System. The system includes a MAC LAYER (15) connected to a UMTS MODEM (12). The UMTS MODEM (12) contains a UMTS MODEM TRANSMITTER (11) and a UMTS MODEM RECEIVER (13). The UMTS MODEM TRANSMITTER (11) is connected to a D/A converter, which is connected to a mixer. The UMTS MODEM RECEIVER (13) is connected to a mixer, which is connected to an LNA, which is connected to an AGC Amp., which is connected to an A/D converter. An AFC Clock Recovery block (47) is connected to the UMTS MODEM RECEIVER (13). The entire system is enclosed in a dashed box labeled 16, which is also labeled as an analog RF front-end.

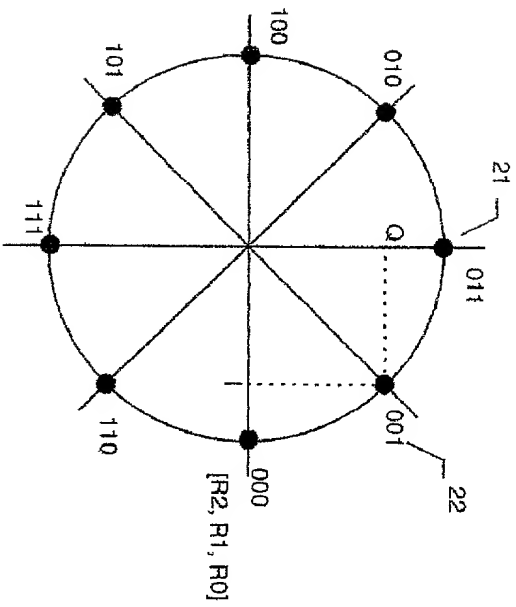


FIGURE 2. An 8-PSK constellations, (Prior art)

Table 1.

Symbol	I	Q
000	1.0	0.0
001	0.7071	0.7071
010	-0.7071	0.7071
011	0.0	1.0
100	-1.0	0.0
101	-0.7071	-0.7071
110	0.7071	-0.7071
111	0.0	-1.0

FIG. 1 is a block diagram of a system for transmitting and receiving data. The system includes a transmitter 100 and a receiver 200. The transmitter 100 includes a data source 102, a processor 104, a modulator 106, and a transmitter 108. The receiver 200 includes a receiver 202, a demodulator 204, a processor 206, and a data sink 208. The transmitter 100 is connected to the receiver 200 via a communication channel 110.

FIGURE 3. An UMTS Modem Transmitter Functional Block Diagram

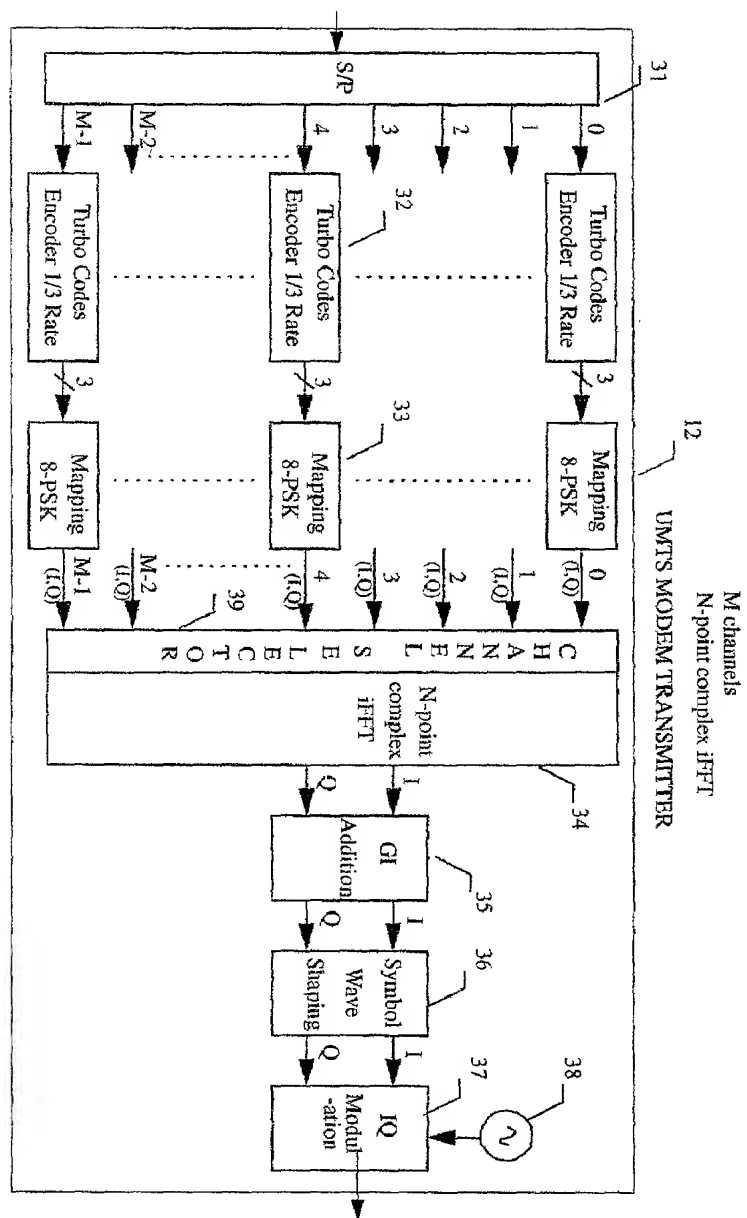


FIGURE 4. An UMTS Modem Receiver Functional Block Diagram

